

In the DETAILED DESCRIPTION OF THE INVENTION

[0012] FIG. 1 shows a perspective right side view of a preferred embodiment of the passive freestanding portable liquid filtration device 18 of the present invention. The upper portion of the invention has a loop or knob 20 which provides a handle for a Lid 22. The lid 22 covers an upper housing 24 for unfiltered liquids. The upper housing 24 defines an upper chamber 24d with a fully open upper end 24e and an enclosed lower end 24f. The upper housing 24 has sidewalls 24g into which are molded has molded liquid shedding ribs 24a. The upper housing 24 has a series of joining nipples 24c for securing it to attachable and detachable lower housing 32, around the circumference of its base. Preferably, there are two sets of lateral protuberance provided by joining nipples 24c which are molded into the upper housing 24, with each of a set spaced apart at approximately twenty degrees, and opposite sets of joining nipples spaced apart 180 degrees. The lateral protuberances provided by the joining nipples 24c extend from the laterally from the sides of the enclosed bottom 24f for approximately one-half inch with a width of one-eight inch, and provide an interference fit with the open end 32d of the lower housing 32 for securing the upper housing 24 to the lower housing 32. The upper housing 24 has apertures provided by upper housing filter element holes 24b in the lower end 24f through which filtration elements 26 are inserted. The filtration elements 26 are designed is such a manner that liquids pass through an exterior surface 26a provided by an outer filtration shell, through the filter media of the filter element 26, into the inner bore of the filter element 26, and then down through a hollow stem 26b and into the lower housing 32. The hollow stem 26b is threaded and defines a protuberant lower end portion of the filtration element 26. A gasket 28, preferably a rubber washer, inserts onto the exterior of the said hollow stem 26b. The filtration element(s) 26 is then placed into the upper housing 24 in such a manner that the hollow stem 26b passes through the upper housing filter element holes 24b and is secured in place with a filtration element fastening mechanism 30, which preferably are threaded fasteners which threadingly secure to respective ones of the hollow stems 26b. In the preferred embodiment, both the hollow stem 26b and the fastening mechanism 30 are threaded; the filtration element fastening mechanism 30 can be a threaded wing nut.

[0015] The base 36 is constructed with an opening 36e which is slightly oval, preferably of the size as the opening 32e 36e of the lower housing 32. The opening 32e of the base 36 will receive the lower end 32f of the lower housing 32 and the joining nipples for base 32b with an interference fit. After the upper housing 24, the lower housing 32 and attachable and the detachable base 36 have been joined, these components can later be disassembled for cleaning, maintenance, transport or any other need. In the preferred embodiment the upper housing 24, the lower housing 32 and the base 36 are blow molded utilizing transparent polycarbonate, such as Lexan® available from GE Pastics of Southfield, Michigan. However, the upper housing 24, the lower housing 32 and the detachable base 36 can consist of any other rigid material that will not leach unacceptable contaminates into the liquid being filtered, such as stainless steel, polyethylene, various impregnated or laminated fibrous materials, various plasticized materials, various metallic materials, various glass materials, various polymers etc. In other embodiments, the flow control valve 34 may be replaced with a fitting to which a flow line is connected.